

CLAIMS:

1. A door opening and closing apparatus for a vehicle that includes an electric actuator for electrically operating  
5 a door latch, wherein the electric actuator is supplied with power driven by a voltage from a battery, the apparatus comprising:

a portable device held by a user, wherein the portable device wirelessly transmits an ID signal, which includes an ID  
10 code;

a power generation mechanism, wherein, when the voltage of the battery is below a level needed to drive the electric actuator, a predetermined manipulation of the power generation mechanism generates the power needed to drive the electric  
15 actuator; and

a communication control unit, which is driven by power of the battery, wherein the communication control unit compares the ID code transmitted from the portable device with an ID code stored in the communication control unit in advance,  
20 wherein the communication control unit permits the electric actuator to be driven only when the condition is met that the ID codes coincide with each other, and wherein, when the voltage of the battery is below a level needed to drive the electric actuator, the communication control unit permits the  
25 electric actuator to be driven based on the condition that the ID codes coincide with each other only when the condition is met that power required for driving the electric actuator is obtained by the power generation mechanism.

30 2. The door opening and closing apparatus according to claim 1, further comprising a manipulation member, which is manipulated to selectively open and close a door, wherein the power generation mechanism generates power in accordance with manipulation of the manipulation member.

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3. The door opening and closing apparatus according to claim 2, wherein, when the manipulation member is repeatedly manipulated, the power needed to drive the electric actuator is obtained.

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4. The door opening and closing apparatus according to claim 1, wherein power generated by the power generation mechanism is stored in the battery.

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5. The door opening and closing apparatus according to claim 4, wherein the communication control unit drives the electric actuator using power stored in the battery by the power generation mechanism.

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6. The door opening and closing apparatus according to claim 1, further comprising a monitor for monitoring whether the battery has enough power for driving the electric actuator.

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7. The door opening and closing apparatus according to claim 6, wherein the communication control unit determines whether the battery has power needed to drive the electric actuator based on a signal from the monitor.

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8. A door opening and closing apparatus for a vehicle that includes an electric actuator for electrically operating a door latch, wherein the electric actuator is supplied with power driven by a voltage from a battery, the apparatus comprising:

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a portable device held by a user, wherein the portable device wirelessly transmits an ID signal, which includes an ID code;

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a manipulation member, which is manipulated to selectively open and close a door;

a power generation mechanism, wherein, when the voltage of the battery is below a level needed to drive the electric actuator, a manipulation of the manipulation member generates the power needed to drive the electric actuator;

5 a detection device for detecting whether the manipulation member has been manipulated; and

a communication control unit, which is driven by power of the battery, wherein the communication control unit compares the ID code transmitted from the portable device with  
10 an ID code stored in the communication control unit in advance, wherein the communication control unit permits the electric actuator to be driven only when the conditions are met that the ID codes coincide with each other and that the manipulation member has been manipulated based on a detection  
15 signal from the detection device, and wherein, when the voltage of the battery is below a level needed to drive the electric actuator, the communication control unit permits the electric actuator to be driven based on the conditions that the ID codes coincide with each other and that the  
20 manipulation member has been manipulated only when the condition is met that power required for driving the electric actuator is obtained by the power generation mechanism.

9. The door opening and closing apparatus according  
25 to claim 8, wherein, when the manipulation member is repeatedly manipulated, the power needed to drive the electric actuator is obtained.

10. The door opening and closing apparatus according  
30 to claim 8, wherein power generated by the power generation mechanism is stored in the battery.

11. The door opening and closing apparatus according  
to claim 10, wherein the communication control unit drives the  
35 electric actuator using power stored in the battery by the

power generation mechanism.

12. The door opening and closing apparatus according  
to claim 8, further comprising a monitor for monitoring  
5 whether the battery has enough power for driving the electric  
actuator.

13. The door opening and closing apparatus according  
to claim 12, wherein the communication control unit determines  
10 whether the battery has power needed to drive the electric  
actuator based on a signal from the monitor.